CIRCULAR DNA VECTORS FOR SYNTHESIS OF RNA AND DNA

Abstract of the Disclosure

The present invention provides methods for synthesis and therapeutic use of DNA and RNA oligonucleotides and analogs. RNA oligonucleotides are synthesized using a small, circular DNA template which lacks an RNA polymerase promoter sequence. The RNA synthesis is performed by combining a circular single-stranded oligonucleotide template with an effective RNA polymerase and at least two types of ribonucleotide triphosphate to form an RNA oligonucleotide multimer comprising multiple copies of the desired RNA oligonucleotide sequence. Preferably, the RNA oligonucleotide multimer is cleaved to produce RNA oligonucleotides having well-defined ends. Preferred RNA oligonucleotide multimers contain ribozymes capable of both *cis* (autolytic) and *trans* cleavage.